

DRAWING AMENDMENTS

Enclosed is a new sheet adding Figure 6 to the drawings.

REMARKS

Applicant has carefully reviewed the Official Action dated January 5, 2009 for the above identified patent application.

At page 2, paragraph 2 of the Official Action, the Examiner has objected to the drawings on the grounds that they do not illustrate the pneumatic cylinder recited in claims 11 and 19. In response to the drawing objection, the present patent application has been amended to include a new Figure 6, illustrating the pneumatic cylinder as reference numeral 21'. The Specification has been amended to identify and describe new drawing Figure 6.

At page 3, paragraph 2 of the Official Action, the Examiner has objected to the original title of the invention, and has required that the title be revised to more clearly identify the nature of the claimed invention. In response to this objection, the title of the invention has been amended, as proposed by the Examiner in the Official Action.

At page 3, paragraph 6 of the Official Action, claim 9 has been rejected under 35 U.S.C. Section 112, second paragraph as being indefinite on the grounds that the recitation "the electrodes (7, 13)" lacks sufficient antecedent basis. In response to this formal ground of rejection, form of claim 9 has been revised to recite "electrodes (7)". The form of claim 17, which included the same recitation as claim 9, has been amended in the same manner.

The form of claim 1 has been amended to correct a spelling error.

At page 3, paragraph 3 of the Official Action, the Examiner has objected to the disclosure of this patent application on the grounds that the term "slipping clutches" is unclear. At page 4, paragraph 8 of the Official Action, claim 8 has been rejected under 35 U.S.C. Section 112, second paragraph, as being indefinite based upon the recitation "slipping clutches". Applicant respectfully disagrees with the objection to the disclosure and the formal ground of rejection of claim 8 based upon the recitation "slipping clutches", for the reasons discussed as follows.

Referring to page 4, lines 31-36 of the Specification, it is disclosed that "End stops 22 and 23, which together with the clutches 10 and 15, which are designed as slipping clutches, prevent the spindles 8 and 14 from rotating out of the nuts of the threaded mechanisms arranged in the electrode carriers 6, 12...". Accordingly, the "clutches 10 and 15" clearly function as torque limiters which slip when the "electrode carriers (6, 12)" abut against the "end stops 22 and 23". Thus, the Specification discloses to a person of ordinary skill in the relevant art that the clutches 10 and 15 slip only when a maximum opening position of the tong is reached, and cannot be regarded as constantly slipping clutches.

Applicant respectfully submits, for the reasons discussed above, that the expression "slipping clutches" will clearly be understood by a person of ordinary skill in the relevant art based upon the disclosure in the Specification, and that claim 8 complies with 35 U.S.C. Section 112, second paragraph, in view of the disclosure of the Specification. Applicant respectfully requests that the objection to the Specification and the rejection of claim 8 as being indefinite based upon the recitation "slipping clutches" be reconsidered and withdrawn in view of the discussion herein.

At page 4, paragraph 10 of the Official Action, claims 1-6, 9-10, 12-15, 17-18, and 20 have been rejected under 35 U.S.C. Section 103(a) as being obvious over a combination of the Heinz et al publication in view of the Marek et al published U.S. patent application.

At page 9, paragraph 11 of the Official Action, claims 7-8 and 16 have been rejected as being obvious over the two aforementioned references in further view of the Nakamura et al U.S. patent.

At page 10, paragraph 12 of the Official Action, claims 11 and 19 have been rejected as being obvious over a combination of Heinz et al, Marek et al, and the Taniguchi et al U.S. patent.

For the reasons to be discussed below, Applicant submits that the pending claims are allowable over the applied prior art references. However, for purposes of simplifying the issues, the prior art rejection will be argued only with respect to independent claim 1. If this claim is allowed, the remaining dependent claims will be allowable, at least for the same reasons as parent independent claim 1.

The invention defined by independent claim is directed to a welding tong comprising two electrode carriers, which are each provided with guides mounted on a linear guide in a floating manner. The two electrode carriers are each moved by a spindle. The two spindles are driven by a single motor which is also held in a floating manner on the linear guide by a third guide. Therefore, the entire welding tong, comprising the electrode carriers; the motors, and the guides, is floating on the linear guide. Additionally, the weight of the welding tong is compensated by respective means, as for example, springs (dependent claim 10) or a pneumatic cylinder (claim 11). In accordance with the invention, the electrodes can be automatically transferred to a symmetrical position with respect to a weld metal by use of a single motor. A flush contact between the electrodes and the weld metal is ensured, without regard to the position and thickness of the parts to be welded.

The Official Action, in applying the Heinz et al publication to reject independent claim 1, states that mounting plate (64) of the electrode arms is connected to a cross bar to hold an electric motor. The Official Action further states that a drive unit is formed by a servo-motor (9), which can be used to drive two spindles (8, 14). The Official Action further states that the drive unit and the electrodes are mounted in a floating position on at least one linear guide (1). The Official Action then concludes that the Heinz et al publication teaches all features of the subject matter of independent claim 1, except that "the electrode carriers (6, 12) can be transferred to the welding position, by means for compensating for its weight". The Marek et al publication has been cited as disclosing control pins (62) lying against a narrow end section (67) of a control bar (61), which are drawn completely out of holes (65) in outer control webs (66) by the force of springs (63), referring to Figures 8a and 8b and Marek et al. The Official Action contends that these springs provide a pressure to compensate for the weight required to release an electrode arm to be moved for welding.

Contrary to the position taken in the Official Action, Applicant respectfully submits that Heinz et al does not disclose a mounting plate (64), but instead, elements (64) are holders for electrode arms (3a, 3b) (Electrodenarmhalteurung 64). The holders are connected at a pivot point (2) (Drehpunkt 2). At electric motor (6) (Elektromotor 6) drives a spindle (7) (Spindel 7) on the side of the pivot point (2) opposite to the electrode arms. Accordingly, Heinz et al discloses a welding tong of the "X" – type which opens in a rotating manner, and is not comparable to a welding tong according to the present invention having linearly movable electrode arms. Additionally, Heinz et al discloses that a welding transformer (9) (Schweisstransformator 9) delivers the welding current to the electrodes, but does not mechanically drive parts of the welding gun.

Referring now to Marek et al, Applicant submits that this reference does not disclose two electrode arms which are mounted on a single linear guide together with their respective drive unit. In the welding gun disclosed by Marek et al, each of the electrode arms is provided with its own spindle system. As soon as a maximum linear opening position of the electrode arms is reached, a pivot joint is released which allows the electrode arms to open further in a rotating manner. In a closed position of the pivot joint, it is locked by two control pins (62) being pressed into holes (65) of an outer control web (66) by a wide section of a control bar (61). When a maximum linear opening position of the welding gun is reached, the control pins (62), are drawn out of the holes (65) by the force of the springs (63), and the pivot joint is unlocked (see paragraphs 0102-0107 of the Marek Specification, and Figs. 7a, 7b, 8a, and 8b of the Marek et al drawings). Accordingly, the springs (63) as disclosed by Marek et al are merely part of a locking mechanism of the pivot joints, and do not serve to compensate for the weight of the welding gun, as expressly recited in independent claim 1 and disclosed in Applicant's Specification.

In summary, as is apparent from the above discussion, the Heinz et al publication does not teach or suggest a welding gun with a linear guide as disclosed by Applicant and expressly recited in independent claim 1, but is directed to a different type of device-namely an "X"-type welding tong which opens in a pivoting and not a linear manner. The Marek et al publication, which has been combined with Heinz et al, discloses a welding gun which opens linearly to a certain extent from which on a pivoting joint is released by driving bolts out of holes with the help of springs. However, these springs do not compensate for the weight of the welding gun, but merely help unlock the pivot joint. Accordingly, Marek et al does not teach or suggest means for compensating for the weight of the welding gun as disclosed in Applicant's Specification, and as expressly recited in independent claim 1. Moreover, according to Marek et al, two linear guides and respective drive units are required for transferring the electrodes into a symmetrical position with respect to a weld metal.

As a result of the diverse and contrary teachings of the Heinz et al and Marek et al publications, Applicant respectfully submits that it would not be obvious to a person of ordinary skill in the relevant art to combine these two references in any manner rendering independent claim 1 obvious, when all positively recited features of the claim are considered in the patentability determination. None of the two combined references teaches or suggests a welding tong which allows for only linear movement of its electrode arms mounted to a single linear guide together with a single motor in a floating manner, in which the weight of the entire tong is compensated by respective means.

It is well established that it is improper to combine references to reject a claim in the absence of a suggestion or motivation in the prior art itself, or within the common knowledge of a person of ordinary skill in the relevant art, to make the combination. See, for example, In re Fritch, 23 USPQ 2d 1780 (Fed. Cir. 1992); Micro-Chemical Inc. v Great Plains Chemical Co., Inc. 41 USPQ 2d 1238 (Fed. Cir. 1997).

In the instant case, as a result of the diverse teachings of the two combined prior art references, there is clearly no motivation or suggestion within the prior art itself, or within the common knowledge of a person of ordinary skill in the relevant art, to make the combination. Moreover, Applicant submits that a combination of the two references would not result in any device rendering independent claim 1 obvious, assuming arguendo that the references could be combined at all.

Since there is clearly no teaching or suggestion to combine the two applied references in the manner proposed in the Official Action, the only basis for this combination, assuming arguendo that the references can be combined, must be based upon use of Applicant's own disclosure as a guide for selectively combining different features of the two individual references to reconstruct Applicant's claims. However, it is well established that a rejection of claims based upon a hindsight reconstruction

of the claims using an Applicant's own disclosure as a guide for the selective combination, is improper as a matter of law. See, for example, Orthopedic Equipment Co. v United States, 217 USPQ 193 (Fed. Cir. 1983).

For the reasons discussed herein, Applicant respectfully submits that independent claim 1 is allowable over the prior art of record. Dependent claims 2-20, which depend directly or indirectly from independent claim 1 and include all features of that claim, are allowable, at least for the same reasons as parent independent claim 1.

Applicant respectfully submits that all pending claims are in condition for allowance, and favorable action is respectfully requested.

Enclosed is a petition to extend the time for responding to the outstanding Official Action for one month, through and including May 5, 2009, together with the applicable fee for the requested one month extension.

Respectfully submitted,



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